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BEEBLET

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COMPUTER USER GROUP NZ (inc)

EDITORIAL

August already? A mixed bag this month with a good spread of contributions.

May I thank:

L Amon	Dunedin
Alex Carr	Wellington
Paul Collins	Cambridge
Anne Flower	Wellington
Roger Gonin	Dunedin
Brian Mudge	Wellington
Mike Shores	Auckland

CHRISTMAS ISSUE

I know its a few months until December, but last year a Christmas issue was not possible due to lack of contributions. If you are thinking about something special for a Christmas issue, how about preparing it now while we are still in the grips of winter. The final date for that issue is 11 November, although earlier receipt assists with the preparation at a time when many other things also have to be done.

Of course, I will still be looking for copy for the months leading up to December.

LOCAL USER GROUPS

With local elections well and truly over, please check the back page of *Beeblet* and make sure the data listed is up to date.

In the meantime,

Happy Computing... Graham Ellett.

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SUSPENDING AN *EXEC FILE

by Anon. *

If you are working on a complex application, consisting of several interrelated programs, it can be a tedious task running them all in the correct order. The *EXEC facility in the Operating System simplifies this. All that is necessary is to incorporate the needed commands in a file, and then the single command *EXEC will execute each one in turn. It does this by switching the main input stream from the keyboard to the specified file, so that as the system asks for input from the user, the file supplies the needed characters.

There is a problem with this. What if one of the programs needs to get information from the user about what it has to do (a very likely circumstance)? If the program tries to do an INPUT or GET, it will find that the keyboard will be switched out and the input will come from the *EXEC file instead. Having the user manually edit the *EXEC file to include the needed replies does not strike me as being a very desirable approach.

Some time ago, there was a bit of a discussion about this in BEEBUG Magazine, and several "solutions" were proposed. The simplest only worked if the program wanting input was the last in the set. A more complicated approach involved using INKEY with negative arguments, and reproducing a keyboard handler within the program.

All this was, in fact, unnecessary. The Acorn Operating System provides the means to achieve the desired result quite simply. The two little programs accompanying this article show how.

The two procedures, PROCexecoff and PROCexecon, do all the work, the rest of the programs are just for demonstration purposes.

PROCexecoff uses OSBYTE 198 to set the system's record of the file handle for the *EXEC file to zero. This causes the system to go to the keyboard for future input. The procedure also saves the old value recorded in the variable exechandle% (You can shorten the name if you like), for use by PROCexecon. Note that the filing system is told nothing about this, and will keep the file open and hold its place in it.

PROCexecon also uses OSBYTE 198, to restore the value saved in exechandle% to the system. This will cause future input to come from the file once more.

Although I have not tried it, I would expect it to be possible to run a program from an *EXEC file, use PROCexecoff to suspend that file, nominate a new *EXEC file to read data from, exhaust that, and, at program's end, use PROCexecon to reinstate the original file.

More complex manipulations still should also be possible, but details will have to be left to those who can think of specific uses for the mechanism.

*BUILD a file EXECME as follows:

```
CHAIN "DEMO1"
PRINT '"Immediate Mode"
CHAIN "DEMO2"
```

Assemble and save the following BASIC programs called DEMO1 and DEMO2 respectively:

```
   10 MODE 7
   20 PRINT '"Demonstration Program DEMO1"
   30 PRINT '"Suspending the *EXEC file"
   40 PROCexecoff
   50 REPEAT:INPUT "Type something (Q or q to stop)",W$
   60 PRINT "You typed ";W$
   70 UNTIL W$="Q" OR W$="q"
   80 PRINT "OK, bye"
   90 PROCexecon
  100 END
  110 DEFPROCexecoff:REM SUSPEND THE *EXEC FILE
  120 LOCAL A%,X%,Y%
  130 A%=198:REM OSBYTE CALL
  140 X%=0:REM NEW HANDLE I.E. NONE
  150 Y%=0:REM OVERWRITE VALUE
  160 A%=USR(&FFF4):REM CALL OSBYTE
  170 exechandle%=?&405:REM OLD VALUE
  180 ENDPROC
  190 DEFPROCexecon:REM RESTORE THE *EXEC FILE
  200 LOCAL A%,X%,Y%
  210 A%=198:REM OSBYTE CALL
  220 X%=exechandle%:REM SAVED OLD VALUE
  230 Y%=0:REM OVERWRITE VALUE
  240 A%=USR(&FFF4):REM CALL OSBYTE
  250 ENDPROC
```

```
   20 PRINT '"Second Demonstration Program DEMO2"
   30 PRINT '"Only run if *EXEC back on"
   40 PROCexecoff
   50 REPEAT:INPUT "Type something (Q or q to stop)",W$
   60 PRINT "You typed ";W$
   70 UNTIL W$="Q" OR W$="q"
   80 PRINT "OK, end of demonstration"
   90 PROCexecon
  100 END
```

continue with lines 110 to 250 the same as DEMO1.

To run the demonstration, just type: *EXEC EXECME

Ed: Unfortunately I cannot attribute this to the true author - the name was not included in the file. It may have been published before, but I make no apology for running it now. It illustrates an interesting technique which may help solve some readers' problems.

TAPE-TO-DISK II

Alex Carr, Wellington

As mentioned in the footnote to last month's article, the tape-to-disk conversion of Electron Snapper can be managed without using a function key. If SNAPPER is chained into PAGE=&5000 the main file "?" can be loaded below at &1D00 without overlapping it, allowing the copy-down procedure to be read straight from SNAPPER instead of being buffered in a function key. Thus, after *SAVEing the TITLEDATA:

```
150 PRINT '"... setting up ..."
160 *LOAD ? 1D00
170 FOR I%=0 to &2847 STEP 4: I%!&E00=I%!&1D00: NEXT
180 CALL &3400
```

Re-attach the TITLEDATA and *SAVE the complete file SNAPPER as before.
Before chaining it from disk type MODE 6, then PAGE=&5000.

It is interesting that SNAPPER was originally *SAVEd from &4000. That is just high enough for the last few lines of BASIC to escape obliteration when "?" is loaded at &1900, the default PAGE for the Beeb's DFS.

PROGRAM FOR ELECTRONIC CALCULATIONS

By M.W.Shores, Auckland

For a long time, this program was in the "round toowit" category. Whenever I had occasion to work out values of the I=V/R type, I tended to get the right answer eventually, but usually only after temporarily losing my way with the various units/multipliers involved.

The other formulae which get tricky for me are those associated with power dissipation. For example I recently found a need to relate voltage across an impedance with dissipated power for the purpose of monitoring power output to the transformer on a home-built Modem. Put more clearly I wanted to answer the question "Monitoring with my oscilloscope, what peak to peak voltage should I see across 600ohms when the power transfer is OdBm ?". I eventually established that OdBm is equal to 1mW into 600 ohms.

The program listed here will instantly give you the answer, plus any answers of the simpler type as mentioned.

When you run the program you are asked to enter values of Voltage, Current, Power, or Resistance. Only two of these parameters is ever needed in order to calculate the other two, so you have the choice as to which you omit. In order to pass over a particular parameter option just enter <RETURN> without any value at all and the program will take you on to the next choice. ALL values must be in absolute units, i.e. Ohms or Amps and so forth, NOT Kilohms or milliamps or microvolts. The rest is self explanatory on screen.

For starters, try some simple relationships for which a predictable answer is known. e.g. 10volts and 1000ohms or similar. You should soon get the hang of it and find it most useful. It has certainly taken the tedium out of simple electrical/electronic calculations for me, but of course it makes one lazy too. Where a pencil and paper is just what we should be reaching for to keep the mind agile, it's easier to lean on a program such as this. However computers are supposed to make life easier.

Punch it in and give it a try.

```
 10 REM *****************************
 20 REM *                           *
 30 REM *          ELECALC          *
 40 REM *             by            *
 50 REM *         SHORESOFT         *
 60 REM *      (C) M.W.Shores       *
 70 REM *                           *
 80 REM *   To work out I=V/R and   *
 90 REM *   P=I^2*R type calcs      *
100 REM *                           *
110 REM *          22/5/88          *
120 REM *                           *
130 REM *****************************
140 :
150 MODE 7
160 X=6:Y=2
170 :
180 PROCheader("Electronic Calculations")
190 PRINT''CHR$(133);"Enter a value if known, else
    <RETURN>."
200 PRINTCHR$(133);"State values in absolute units
    please."
210 PROCwindow(1,8,38,15)
220 :
230 REPEAT
240 CLS
250 V=0:R=0:I=0:P=0:tally=0
260 INPUTTAB(X,Y)"V=";V$:IF V$="" V=0 ELSE
    V=VAL(V$):tally=tally+1
270 INPUTTAB(X)"R=";R$:IF R$="" R=0 ELSE
    R=VAL(R$):tally=tally+1:IF tally=2 GOTO 300
280 INPUTTAB(X)"I=";I$:IF I$="" I=0 ELSE
    I=VAL(I$):tally=tally+1:IF tally=2 GOTO 300
290 INPUTTAB(X)"P=";P$:IF P$="" P=0 ELSE
    P=VAL(P$):tally=tally+1
300 IF tally<2 PRINT''TAB(5) CHR$(131)CHR$(136)"You need
    two parameters:"'TAB(6) CHR$(129)"Please try
    again":FOR pause=0 TO 5000:NEXT:GOTO 240
310 IF V=0 AND R=0 state=1
320 IF V=0 AND I=0 state=2
330 IF V=0 AND P=0 state=3
340 IF R=0 AND I=0 state=4
350 IF R=0 AND P=0 state=5
360 IF I=0 AND P=0 state=6
370 ON state GOTO 390,430,480,520,560,600
380 :
390 REM We have P and I
400 V=P/I:R=V/I
```

.... *ELECALC* Contd. >>>

```
410 GOTO 630
420 :
430 REM We have P and R
440 REM P=(I^2)R. ergo I^2=P/R ergo:
450 I=SQR(P/R):V=I*R
460 GOTO 630
470 :
480 REM We have I and R
490 V=I*R:P=V*I
500 GOTO 630
510 :
520 REM We have V and P
530 I=P/V:R=V/I
540 GOTO 630
550 :
560 REM We have I and V
570 R=V/I:P=V*I
580 GOTO 630
590 :
600 REM We have V and R
610 I=V/R:P=V*I
620 :
630 PROCprintit
640 PRINT''TAB(X-1)CHR$(134)"Press a key to continue"
650 Z=GET
660 UNTIL FALSE
670 :
680 DEFPROCprintit
690 CLS
700 IF V<1 PRINTTAB(X,Y)"V=";V*1000;" mV";"( RMS or DC )":
    ELSE PRINTTAB(X,Y)"V=";V;" Volts";:
    PRINT "( RMS or DC )"
710 IF R>=1000000 PRINTTAB(X)"R=";R/1000000;" Mohms" ELSE
    IF R>=1000 PRINTTAB(X)"R=";R/1000;" Kohms" ELSE
    PRINTTAB(X)"R=";R;" Ohms"
720 IF I>=1 PRINTTAB(X)"I=";I;" Amps" ELSE IF I>=0.001
    PRINTTAB(X)"I=";I*1000;" mA" ELSE
    PRINTTAB(X)"I=";I*1000000;" nA"
730 IF P>=1 PRINTTAB(X)"P=";P;" Watts" ELSE IF P>=0.001
    PRINTTAB(X)"P=";P*1000;" mW" ELSE
    PRINTTAB(X)"P=";P*1000000;" nW"
740 PRINT''CHR$(130);"If voltage is sinewave AC then
    pk/pk"'CHR$(130);"value = ";:
    IF V*2*SQR(2)<1 PRINT V*2*SQR(2)*1000;" mV":
    ELSE PRINT V*2*SQR(2);" Volts"
750 ENDPROC
```

.... *ELECALC* Contd. >>>

.... *ELECALC* Contd. >>>

```
760 :
770 DEFPROCwindow(X%,Y%,W%,H%):REM start,width,height
780 VDU28,X%,Y%+H%-1,X%+W%-1,Y%
790 ENDPROC
800 :
810 DEFPROCheader(A$):VDU12:FOR I%=0 TO 1:
    PRINTCHR$&81;CHR$&9D;CHR$&83;CHR$&8D;:
    PROCcenter(A$,VPOS):NEXT:ENDPROC
820 :
830 DEFPROCcenter(A$,vpos)
840 PRINTTAB((20-LENA$DIV2),vpos);A$
850 ENDPROC
```

NEWS FLASH *NEWS FLASH*

TONY KRZYZEWSKI

Beeblet has just been advised that Tony Krzyzewski has been appointed general manager for the New Zealand branch of Austral Data Networks (ADN).

Tony will be responsible for the day to day running of the New Zealand operation and will appoint, as well as provide support for, ADN dealers.

Tony has had over twelve years experience in the computer and high technology industries through his employment with companies such as Barson Computers, NAS, AHI and has been involved in micro-networks and mainframe engineering.

Austral Data Networks, which markets a wide range of networking components based on the ISOLAN range from UK-based BICC Data Networks, are divided into five main groups, conventional copper cable products, fibre optic products, PC based products, gateway products and test and monitor equipment.

The BBC/Acorn Computer User Group, which has had many contacts, both at local levels and with the New Zealand group through this magazine over the years, wishes Tony all the best in his new enterprise.

The Z88

or what the QL should have been

by Paul Collins, Cambridge.

Back in 1984/85, riding on the success of his Z80 based Spectrum, Sir Clive Sinclair set out to conquer the world with his all bells, whistles and knobs QL; the subsequent debacle of if/when/maybe is well known. Since then relatively little has been heard from him, but irrepressible as ever he has once again appeared tied up with Cambridge Computers producing the Z88 portable.

Having seen advertising in various magazines extolling its virtues, I leapt at the chance to have a try out when John Mellsop from ELECTROTEC received his first one.

Packaged in a plastic cardboard carry case, with slots for the computer and the manual, it is literally the same size as an A4 sheet of paper. I'm sure once the rudiments of the manual have been gained, the carrycase and manual can be stored, and the 25mm thickness of the computer itself will confer delightful portability.

The Z88 has the distinctive Sinclair black look and could be described as having clean styling with the multiplicity of key symbols previously used dispensed with. The display is one of the new generation supertwist LCD's, 80 columns wide by 8 lines with a few bits on each side to display various options and symbols. The keyboard is made of a soft rubber and is a full qwerty layout with a few extra keys and some differences in layout to the Beeb.

Connections to the outside world are via a 9 pin D socket for serial, at 75 to 38400 bauds (yes, that is fast) and by an edge connector on the right side (probably for the disc drives mentioned in the manual). Also provided at the front are three slots for cartridges containing RAM or EPROM ranging in size up to 128K at present but even bigger promised in the future.

And what is the Z88 like to use?

First, lets deal with the hardware side of it.

Starting up is a piece of cake - you just flip the foldaway foot up underneath, sit it down, press both shift keys and away you go. Despite being described as having a dead flesh feel to it, the keys were positive if squishy and light to touch. Fifty words per minute quality it isn't, but with the optional key beep on, adequate for touch typing.

Differences to the Beeb's layout mainly were on shifted keys, for example the star is shift 8 and the double quote is where the star is on the Beeb. On the whole I found I quickly adapted to their new location and found some a definite improvement, unlike the Beeb having an unshifted equals key (I have always found it a nuisance having to use shift when programming in BASIC on the Beeb).

Criticisms levelled at liquid crystal displays by other reviewers made me take particular notice of how this one performed. In strong diffused light the display is clear and very sharp and while suffering from write lag, perfectly readable when the contrast was adjusted to suit. Indoors and under electric light is however the achilles heel of these displays and this one would appear to be no different from any other LCD requiring careful positioning relative to the light source to get optimum clarity and minimum reflection.

Transferring files to my Master via the serial port was the only use I made of the ports. This socket has been mounted flush on the side of the Z88 and initially the plug kept falling out; deft work with a screwdriver to wind the securing screws on the plug out remedied this and allowed it to go fully home; subsequent use being reliable.

The only other holes in the case were the display contrast control, AC adaptor socket and the battery slot for the four AA cells. The small size of the batteries indicates that extensive use has been made of CMOS devices, all mounted on a single PCB from what I could see through the rampack ports (no I didn't open it up, I have been caught before).

Now to the software side of things.

When I first started playing with Microprocessors, the machine I had was very advanced for its day having a TINY basic interpreter in ROM and with commercial programs non-existent, the hot applications were number guessing games and simple reconciliation of one's cheque book. In the seven years, since the power of the programs has skyrocketted, becoming more and more sophisticated and user friendly, once you got them running.

And therein lies the rub, you switch on your new XYZ 5000 and it just sits and blinks at you. You the operator have to know how to get it going. Wimp front ends have improved this situation markedly by allowing selection of programs and applications with a mouse, pointer and the appropriate disc. Great but not ideal for a portable like the Z88. Cambridge Computers answer is to bundle a whole heap of useful applications into the computer itself and design a front end to match.

Ok what have we got? From the initial screen one has a choice of:

Diary, Pipedream, Basic, Calculator, Calendar, Clock,
Alarm, Filer, Printed, Panel, Terminal, Import/Export.

ie., twelve applications selectable by highlighting with the arrow keys and pressing ENTER, or by pressing the square label key followed by the letter displayed at the end of each line.

From within these applications, further submenu's can be selected by using the 'menu' key. These sub menu's are the entry to the facilities like layouts, saving, loading, etc., for that particular application. Exiting back to the application is done by pressing 'ESC'.

At any time you can suspend the application your working on, go back to the initial screen by pressing 'index', selecting another application, and then return to your original without loosing your place. This ability to flip between applications is so easy to do, it tends to hide the power it confers on the user. No more saving a file, changing discs, etc., just to run a program which contains an answer that is not written down any where else.

Of the applications listed above the Diary, Calculator, Calendar, Clock and Alarm contain no surprises and will wake you in the morning, tell you the date and time, what appointments you have today and add up how much you spent shopping yesterday. Printed allows non Epson printers to be catered for, Filer catalogues, renames, erases files as would *commands on the Beeb; Panel is similar in action to the control panel on the Master series, setting various parameters like keybeep, baud rate, etc. Terminal is to VT52 standard and communicates via the 9 pin port.

Pipedream is, of course, Cambridge Computers version of View Professional and from all reports is fully compatible. My own experience is with View and its sisters and I felt completely at home with Pipedream. The lack of function keys was neatly got around by using the diamond key/letter combinations printed under the display.

Using it as a word processor was every bit as easy as with View. One nice touch was the on screen bold and underlining in response to printer control codes in the text.

Submenu's provided all the help on formatting, justification, etc., that I needed and in fact pointed up a lack in the View suite on the Beeb, unless you have Overview fitted.

Spreadsheet and Database applications were not tried. Doubtless, its compatibility with View Professional would allow any review in the BBC magazines to apply.

Features abounded in the submenu's, the file option being particularly good allowing the saving of files as text only if required. If the 3 Mb ramdiscs eventuate, imagine the ease of downloading a file from the mainframe! at work then processing them at home on the humble Beeb. Move over IBM. I found this facility handy for saving files I wanted to read into View, well done.

Getting lost in the middle of a masterpiece is fairly easy to do with only eight lines displayed at any one time; fixing this shows a terrific piece of lateral thinking on the part of Cambridge Computers. To the right of the screen a mini version of your text is shown each pixel representing a letter, your exact location is indicated by a vertical bar on one side, neat.

Import/Export must be one of the strengths of the Z88 as its simple to use and with the appropriate software running on a Beeb (or a PC) file transfer is very easy to perform. The software for the Beeb presented a screen of options like the Z88 and only needed S)end or R)ecieve followed by the filename, in fact it was so easy that to save time I loaded some basic programs into the Master's editor, saved them as text files then across the link to the Z88 and Exec'd them into BASIC. One bleat I do have about the Link package though is the length of the cable, 1 metre is really a bit short!.

BASIC is BASIC just like people are people which means they are similar but not identical. BBC BASIC (Z88) is about as close as you can get when allowance is made for the lack of graphic's on the Z88. The programs I loaded from the Master all performed as on the Master once changes were made to fit the output into the Z88's screen.

Mod instructions gave a polite 'Sorry, not implemented' message, VDU's and CHR$ were ignored. Editing a program is done by retyping the whole line which is a bit of a bore, but one of the magazine's I have gave a short PROC to use making life a lot easier. The other way is to take the original text file and load it into Pipedream for editing, then EXECing it back to BASIC; which is a very good example of the great flexibility built into the Z88.

One facet I was interested in was how it measured up in the speed stakes. Running a 1 second long for next loop from the Master took 2.49 seconds on the Z88 without printing to the screen. The time taken when printing n each time through the loop slowed things considerably taking some 66 seconds for the same task! Memory available depended on the amount filed away in the RAM but, by using a plug in RAM module, the full 30K should be available for programs. The Diary will tell you how much memory is free.

Manuals can make all the difference to the use of a computer. The one supplied was nicely ring bound of 218 pages with the emphasis on the application software included in the machine and wasn't cluttered up with programmers paraphernalia; the four page index usually pointed me in the right direction. Surprisingly there were no pictorial instructions on installing the Rampacks this was on a separate piece of paper slipped into the packaging.

Specifications

CPU	Z80
RAM	32K Internal 32K RAM or EPROM Packs (Optional) 128K " "
Keyboard	64 Key Rubber
Display	80x8 LCD
Power	4 x AA cells (20 hours use, 1 year when off) Mains Adaptor (Optional)
I/O	Serial, 9 Pin D socket 75 to 38400 Baud Parallel, edge connector (Disc's etc ?)
Printer	Serial, as for I/O
Software	Pipedream (Wordprocessor/Spreadsheet/Database) BBC BASIC (Z88) Diary,Calendar,Calculator,Alarm Filer,Import/Export,VT52 Terminal Printer driver editor
Prices	To User Group Members $895 + GST 32K Ram or Eprom packs $74.95 + GST 128K " " " $179 + GST BBC/Z88 Link $89 + GST

Available from ELECTROTEC 21 Grey St Hamilton Ph 63-624

* * *

One thing I did enjoy was being able to take the manual and the computer with me when I retired for the night - lets see you do that with a PC!

Reservations about the Z88 are few - mainly they are to do with the readability of the display under electric light (the manual talks of third party interfaces to monitors to come later), and the robustness of the footrest.

Where it fits into the computing scene depends on where you are looking at it from. For the airborne executive or the team heading into the backblocks to download data loggers it is absolutely unbeatable. For myself, I would have preferred to pay for a larger backlit display so my notoriously myopic supervisor could see the figures on the screen.

For a long time I have wondered why Acorn didn't produce a portable or even a luggable version of the Beeb. The likes of Compac and Osborne have demonstrated very clearly the demand for such a product, especially one using a widely known language or operating system. Well Mr Coleman I think you are too late! The Z88 is in my opinion the machine Acorn should have made instead of the B+ or even the Compact - its light, very portable, uses proven languages, has an extremely well thought out front end, and for Beeb owners like myself at last a product I can take to work without worrying that some sod's going to nick it overnight.

My thanks to John Mellsop of Electrotec for the tryout machine - somehow I feel John's going to have to drag it from my hands when I come to return it.

HELP WANTED

WINTER AILMENTS WITH A BBC/B

Noel Read of Dunedin writes:

Sometimes, when my BEEB is first turned on it doesn't boot correctly or won't boot at all. With WORDWISE Plus a message "Press any key" appears repeatedly and scrolls up the screen. With ULTRACALC, files won't load completely. Strange things happen with other programs too. Sometimes the speaker beeps continuously, and sometimes at different pitches.

The only solution I have found is to leave it switched on for about five minutes - to warm up (?) - then everything works perfectly. The problem appears to occur only on cold days.

Could low temperatures cause this? Can anyone suggest a solution please?

Editor: I will also be interested in the reply to this question. I have noticed that the PSYCHEBROT pictures do not always load correctly on my BBC/B immediately after turn on, although no problems after the Beeb has been running about five minutes. One suggestion has been faulty ROM socket contacts....

Home Thoughts on Ordering Abroad

by L. E. S. Amon, Dunedin.

From time to time I have heard folk complaining about the price of computer equipment in New Zealand and advocating the direct ordering of equipment from overseas. There have been contrary noises from local dealers who, to put it mildly, would prefer us not to deal directly with British suppliers. Although this article is about directly ordering from Britain, I do have a few thoughts about supporting the local dealers, especially when they show signs of supporting us.

For some reason, otherwise rational people turn into deepest red marxists at the merest thought that the retailer may make a profit out of supplying their requirements. Obviously, failure to make a profit will result in the inevitable demise of the enterprise in question. Everyone in the distribution chain must make a profit to survive, and that profit must be sufficient to also cover the times when there is no customer in the shop. Critics should try running a successful business before accusing anyone of profiteering.

Having said that, nobody owes the retailers or wholesalers a living; their agencies are not licences to print money and if we can find a cheaper source of the goods we want, we are free to take advantage of it. It is highly unethical, though, to go into a shop and have goods explained or demonstrated if the intention is to obtain them from another source. Not just unethical, but despicable in my view.

Assuming that your conscience is clear, how do we go about ordering that highly desirable piece of hardware or software that we see advertised in the British magazines? How do we transmit the money, and how do we get it through Customs at this end? How do we assess how much it will cost? By the time we have converted the price to local currency, paid the bank fees, paid for freight, customs and GST, it is possible to exceed the local retail price, not to mention being on the opposite side of the world from the supplier when the new item fails to work. Your friendly local computer retailer (if he is still in business) may help you, but why should he? Can you blame him if he loads on the charges for his time?

Firstly, how to we get the money to the supplier, and how do we know how much to send? The easiest method (but not necessarily the best) is to use a credit card. Look for the creditcard symbols in the advertisement. If there is no creditcard logo, enquire; the creditcard company charges a percentage of sales, so they may not be encouraging excessive use. Their ACCESS card is the same as our MASTERCARD, and their BARCLAYCARD is the same as our VISA. BANKCARD is not acceptable there. You will need to give them the number, expiry date and name, off the card. These should be in the same form as they appear on the card. The expiry date is checked against the account number to ensure that the number is genuine and not just a lucky guess. As a further safeguard, they will normally only send the goods to the address that is recorded by the creditcard company. You can even phone your order through if you are really in a hurry.

What can go wrong? Well quite a lot, but probably only if you are unlucky. I was, but not very. The idiot on the other end of the phone obviously did not sense the money ticking away like I did; the call cost about $36, even though I had everything written down in front of me. Then he forgot to record the creditcard expiry date, so that they had to write to me for the information before they could process the order. While that letter was in transit, the new government (this is an old story) devalued our dollar by 20%. When the letter arrived I lost my nerve and sent a bank draft, buying my sterling at the most unfavourable rate that it has ever been since. In the end my dual floppy drives with power supply cost me 80% of the price of my earlier local purchase of a single drive without power supply, so I did come out ahead of the game.

The other method of paying is by bank draft. It is slower, but less exciting and due to the fixed charges (about $5 depending on your bank) it is more appropriate for the more expensive items. Since you need to know the total bill, including freight, in advance, it is best to write to the firm detailing your order AND THE REQUIRED MEANS OF FREIGHT and asking for a "pro forma invoice". When this arrives, take it to your bank, and ask for a bank draft for the amount shown. This is then sent back to the supplier with the pro forma invoice, and in due course the goods arrive.

Are your problems now over? Is the Pope Jewish? It is possible, but perhaps you should not count on it.

The Customs move mysterious ways, their wonders to perform. Sometimes the parcel will just arrive in the post. Do not question this. It is a miracle beyond human understanding and humble gratitude is the only sensible reaction. Sometimes all that arrives is a plain white postcard. Often many of the spaces on the card are left blank even though it seems that a three-year-old child could have filled them in. The Customs are not allowed to employ three-year-old children, so bear with them and try to understand their problems. Do they want money? If so, is what they want reasonable? If it is, you may get your goods faster by sending them the money. If not, talk to them; they may not understand computer technology and may have mis-classified the contents of your parcel. I have found them to be quite amenable to reason and relatively sympathetic to the casual private importer. I do rather strongly recommend against lying to them; I have heard that this upsets them.

VAT and GST are the final problems, or perhaps the last straw. Although they probably know it already, I always remind British firms that VAT is not payable on exports. If they do charge VAT and show it on the invoice, you can claim it back from the British Customs. If you are buying while on holiday in Britain you can get a form from their Customs, preferably before you buy, which will enable you to claim back any VAT you have paid. (The same applies to sales tax in Australia. You get the appropriate form from their tax department and send it with your evidence of export after you return to NZ. Your invoices must show the tax paid in dollar terms, NOT just as a percentage). If you have to pay duty in NZ, you will also be required to pay GST, calculated on the duty-and-freight-paid landed cost of the goods. Sorry.

Finally, in the more distant past I have had difficulty in persuading British firms that I really do want the goods sent by Air Mail, and really am prepared to pay whatever it costs. I now print the words AIR MAIL in my orders in double-width bold capitals and highlight them with a fluorescent marker. Either this works, or British computer companies are more with-it than most of their compatriots.

Next month, the second part of this article will be published, with experiences with importing particular packages.

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*FX Calls V

DEATH AND DESTRUCTION

by Anne Flower, Wellington.

We will indulge in a little vandalism and escapism this time. There are quite a few *FX calls that cover the effects of pressing the ESCAPE and BREAK keys, or offer ways of simulating them, or of disabling them. A lot of articles in computer magazines assume you want these facilities solely to prevent the amateur hacker from listing or accessing your program, or perhaps copying it; as these calls can render listings unlistable or will wipe clear the listing from memory. With that in mind, let's dip into:

*FX200	Read/write ESCAPE, BREAK effect:
*FX200,0	means these two keys work as normal (ie., the default setting)
*FX200,1	disables ESCape (unless the Escape was caused by *FX125)
*FX200,2	ensures memory is cleared when Break is pressed - ie., OLD will not recover the program for you.
*FX200,3	disables ESCape and wipes memory on Break

You will find that *FX200,1 will be reset just by pressing Break. One way round this is by including *FX200,1 in a *KEY10 definition. Disabling these keys is useful for keeping damage done by undisciplined fingers to a minimum, and one can hope, for example, that people using multichoice tests on the computer will not be able to get at the answers if they are within the program.

A *FX200,2 within your program means that anyone trying to press Break then OLD to get back to the program listing, will find that the program has been wiped from memory and is, therefore, 'unOld-able'. (And *FX200,3 will at the same time disable the Escape key). It would pay you therefore, to have a legitimate way of ENDing the program - along the lines of:

```
INPUT"Have you finished yet Y/N"answer$
IF answer$ = "Y" THEN PROCend
END
DEF PROCend
*KEY10*FX200,3|M : REM better done in PROCstart!
CALL !-4
ENDPROC
```

The CALL !-4 simulates in some measure the pressing of the Break key, and because of the *Key10 definition, will also wipe the program out. (The -4 is the equivalent of &FFFC which is the Break vector).

To be truly effective in clobbering Break, or at least in intercepting all the actions the computer would normally do when it is pressed, you will need to descend (??) into machine code with OSBYTEs (*FX) 247, 248 and 249. I refer you to the bibliography at the end of this article if you wish to explore these further. Most of the references include listings to insert in your own programs.

ESCAPE

Remember in part 3 (June) how we redefined the TAB key to be any other, even Escape? There is an *FX call to make any key the ESCape key also:

*FX220,101 will drive anybody nuts - imagine using Interword when each time you pressed the letter "e" you ended up back at the menu screen!! Or typing in a listing with AUTO line numbering, when every "e" flipped you out of AUTO!! Meanwhile, the ESCape key does nothing when pressed! All the more amusing if you defined some less common character to be the Escape key. Default is *FX220,27 but the X value can be set to any ASCII value at all.

Hearkening back to last month's extra on function keys,
*FX220,128 will turn *f0* into Escape;
*FX220,144 turns Shift+*f0* to Escape
*FX220,160 turns Ctrl+*f0* to Escape
*FX220,176 makes Shift+Ctrl+*f0* behave as Escape.

And how about *FX229,27? Instead of Escape behaving as normal, it merely returns an ASCII value - useful if you are wanting a prompt such as "Press ESCape to move to next section". It can then be treated as any other character on the keyboard for input.

At the keyboard, type in
PRINT GET (RETURN)
then press Escape. Then
*FX229,27
PRINT GET (RETURN)
then press Escape again. Notice the different reaction? If you're not sure what you are looking at, try PRINT GET then press an "A" or "E" and the computer will produce their ASCII value of 65 or 69 respectively - or 101 for "e"; and read the User Guide for details of GET. The ASCII value of Escape is 27.

Default setting is *FX229 (or *FX229,0 if you prefer).

MULTIPURPOSE BREAK

Another *FX call relating to the Break key is *FX255. This one can have all sorts of effects - for instance I was making a rare appearance at a User Group meeting, and heard a very noisy disc drive. I've heard it whenever our computer comes back from "servicing", and is related to the speed the disc drives prefer to be accessed at; so I knew the noise could be alleviated.

Type in *FX255,255 or similar, I suggested. The man reckoned it wouldn't work, it was just the drive, and wouldn't even try it until another man backed me up!!! (And they wonder why women don't have a large presence at these meetings!) So you don't have to put up with a noisy disc drive. If you can't get satisfaction from the Disc User Guide for your particular brand of drive, trial and error will show which is the quietest option for your setup. You do have to press Break after typing this *FX call in before it will take effect.

*FX255 is used to set three start-up options:

1: Normally when you press Break, the Beeb returns you to a Mode 7 screen for instance
2: Discs with a !BOOT file can boot up either on Break or, normally, Shift+Break.
3: Different drives like to operate at different speeds

On the Master this *FX call can only affect option 2 of the above. On a BBC, these can all be set by hardware - a series of links under the keyboard which can be 'made' or 'unmade'. Some machines have a set of DIP switches to flip on or off. The *FX call will reset them by software - just press Break after the *FX255,n to do so.

All binary bits are referenced:

bit #	7	6	5	4	3	2	1	0
default	1	1	?	?	1	1	1	1
affects:	N/A	N/A	drive	drive	boot	mode	mode	mode

If your drive is noisy, or a borrowed one is on your computer, experiment with bits 5 and 4. Assuming default settings on boot and mode, the X values could be one of:

binary	11001111,	11011111,	11101111,	11111111
hex	&CF	&DF	&EF	&FF
decimal	207	223	239	255

Bit 3 (fourth from the right) when equal to 1 boots on Shift+Break. When set to 0 it will boot on Break.

Bits 0-2 represent the mode:
Mode 7 is binary 7 or 111
Mode 6 is, in binary, 110
Mode 5 is.... 101 and so on
Mode 0 is.... 000

So to boot on Break and to use Mode 3 thereafter could look like binary 11000011 is &C3 is decimal 195 so *FX255,195.

A Master uses *FX255,0,247 and *FX255,8,247 only, to flip between booting on Break or Shift+Break.

BREAKING OFF:

If all this high-tech stuff has fogged you up - especially if you dip in to the bibliography and try to interpret machine code - then wait until next month when your sinuses will be unblocked, and your buffers flushed.

Meanwhile, if an expert would like to practice reverse flushing buffers, please drop in and do my car's radiator "buffer" while I explain normal flushing procedures to the rest of the readers.

For the BIBLIOGRAPHY of related articles, see the bottom of page 24 overleaf.

LOCAL USER GROUPS

WELLINGTON

JULY MEETING

The subject at the July meeting of the User Group was word-processors and mostly centred on the three major word-processors in use on the Beeb, ie., InterWord, View and the two versions of Wordwise.

First of all Bernie Kay introduced a discussion on word-processors and, with input from the audience, drew up a list of the advantages and disadvantages of the three major programs. This was not to find which was the best or the worst but to give a basis to work on to find the best word-processor for people's needs.

Using the information given it was decided that InterWord was probably the best for the beginner in word-processing, but that what it boiled down to was that people thought

Continued next page >>>

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*FX CALLS V Contd:

BIBLIOGRAPHY of related articles:

'Program Protection' A&B Computing Sept '86 p90-91 (FX200)

'Putting the brakes on your Break key' Micro User March '85 p133-5 (FX247,248,249)

'Break Away' Acorn User July '85 p145 (FX247,248,249 with the advantage of coping with open files)

'Protect Your Programs' Micro User Sept '86 p135 (FX200 extended through Ctrl+Brk abuse as well)

Beebug Jan/Feb '85 (a No-Break m/code using *fx200)

This is not an exhaustive bibliography, but solely based on the library available to me. Topics seem to go in cycles, and 1985-6 was a good period for this one.

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that the best word-processor was the one that they were used to. Every word-processor has its good and bad points and if you can get around the bad points and you are used to the program then why use another one.

Anyway, after Bernie made his speech everybody moved into "corners". This is where there are a number of people demonstrating various things in different parts of the room. As there was a set topic we had one person demonstrating View and Hyperdriver, the new printer driver ROM from DABS Press (which has a NTQ font and will allow access to all the printers features using highlight commands), one person demonstrating Wordwise+ and another demonstrating InterWord and SpellMaster. As a result people were able to see all of the programs in action and make their own choice about which one to use.

Editors Comment: It was entertaining trying to demonstrate InterWord as the computer being used was refusing to respond to operation of the Shift key. Any attempt to demonstrate, for example, how easy it is using Interword to underline text and the resultant WYSIWYG tended to fall a bit flat.

WORKSHOPS

A reminder that Workshops are now held in the Penthouse room in the main building at Wellington College on the fourth Tuesday of every month.

The dates for then next four meetings this year are as follows:

September	7
October	19
November	16
December	14

I would tell you what each meeting is going to be about but at the time of writing this article I have lost the bit of paper I had the topics written down on!!!

Until next month, happy computing.

D. Salmon

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SCREENDUMPS IN WORDWISE PLUS

Arising from Anne Flower's enquiry on this subject (Vol 6 No 3 page 18) Roger Gonin from Dunedin has referred us to "WORDWISE Plus Programming Ideas" written by Paul Beverley and published by Norwich Computer Services. A number of readers may be interested in the technique involved - it follows fairly closely the synopsis suggested by Anne with her enquiry.

Graphics Dumps in Text

Including graphics dumps in text is relatively easy, assuming that you already have a program for printing such a dump. This program must first be used to create a disc file for later inclusion in text.

We will assume from here on in that the dump program being used is the Computer Concepts PRINTMASTER ROM, since it is widely known and easy to use. The command to make PRINTMASTER produce a screen dump is *GDUMP. It may be followed by parameters such as left margin, etc., but such settings are left to the user. Wherever *GDUMP is mentioned, you may use your own screen dump command in its place. Most screen dumps produce the same information as far as we are concerned here.

Before actually going into WORDWISE Plus to print your document, a file containing the screen dump must first be created. Presumably you have either a screen image saved on disc, or you have a program which produces the screen image that you wish to dump. If a BASIC program is producing the screen, the the lines described below must be added into the program at the point at which the image is on the screen. If you have the screen image on disc, simply precede the following lines with a command to *LOAD the image back on the screen. By either means, the following lines should be executed once the image is on the screen. You cannot type them in from the keyboard once the image is on the screen or they will appear on the screen and be dumped as well.

```
*SPOOL dump
*GDUMP
*SPOOL
```

Interested in finding out more about what Paul Beverley can offer? Obtain a copy of

"The Complete WORDWISE Plus Handbook"
420 pages, A5, wire bound

Includes
- auto paragraph numbering
- handling address lists
- creating multi-columns
- automatic file saving with back-ups
- etc, etc. - over 60 programs

Price £10

available from:

Norwich Computer Services
18 Mile End Road
NORWICH, NR4 7QY
England

also available:

WORD-EX ROM £25

for
- menu driven file access
- extra keyboard commands
- etc

CP-ROM £20

for
- continuous processing
- global formatting taken care of
- etc

All prices, which are for a limited period, include VAT. Suggest you multiply the prices by 100/115 but add a couple of pounds for P&P.

This copies whatever is sent the printer to a file called "dump". The screen dump data is therefore recorded for later use, but one important point to note is that the amount of data sent to the printer to create a screen dump is surprisingly large, typically about 100K for a full mode4 screen. Don't be surprised if you are greeted by a "Disc Full" message when trying to dump a full screen.

Now you should enter WORDWISE Plus, type or load your text into the text area. Select a program segment, eg., segment 0, and type or load the short program listed overleaf:

```
I%=OPENIN "dump"
REPEAT
  VDU BGET#I%
UNTIL EOF#I%
CLOSE#I%
VDU2
END
```

Finally, return to the text and at the point at which you want the screen dump to be printed, enter the embedded command:

```
<gr>SEG O<RETURN>
```

You may wish to leave a few blank lines above and below the dump as well.

There are several points to note about the use of this program:

1. If the text, including the segment call, is previewed with option 7, the screen dump will still be sent to the printer. If the printer is turned off, the computer will stop with the CAPS LOCK light on. Do not press <BREAK> if this happens, press <ESCAPE> instead. To preview the text, remove the SEG embedded command or put a REM in front of it as:
   <gr>REMSEG O<RETURN>.

2. Any settings of left margin, line length, indent, etc., cannot be taken into account positioning the screen dump. Using PRINTMASTER does allow for a left margin setting independent of WORDWISE Plus. This must be used to set the left margin.

3. Of particular importance is that when paging has been enabled in the document being printed, WORDWISE Plus will be unaware of the size of screen dump which has been printed. The length of page in question must be altered to accommodate the particular screen dump. Measure the screen dump against previously printed lines of text to see how many lines to subtract fro the page length. Then remember to reset the correct page number on the next page.

Thanks to Roger Gonin and Paul Beverley.

HAVE YOU WON LOTTO?

by Brian Mudge, Wellington

This program is used to find out your Lotto results. All you have to do is, watch television or read the newspaper, to find out the lotto numbers and then you enter them in the computer and it tells you what divisions you have won if any.

Lines 100-140 are used for inputing the six main Lotto numbers and line 150 for inputing the bonus number.

Line 170 will have to be changed to suit the number of boards you enter into Lotto; I enter 20 boards with a syndicate at work hence:-

```
170 FOR P=1 TO 20
```

If you only enter five boards a week then change line 170 to:

```
170 FOR P=1 TO 5
```

Lines 170-300 are the main lines that do all the cross checking between your numbers and the winning numbers.

Lines 360-550 are the data statements where you put your Lotto numbers, I put them in groups of six numbers per line because there are six numbers per lotto board. Use as many lines as you need and delete the ones you don't need, or even add extra lines between.

PROCp is used to print out the results, I put mine out to the printer so I have a hardcopy but if you don't want a hardcopy (or don't want the program to lock up when the printer is switched off) delete the following lines:-

620, 630 and 690

PROCcheck is used to check what prizes you have won if any.

```
 10 CLS
 20 REM LOTTO RESULT FINDER
 30 DIM LOT(7):DIMR(100,7):FOR I=1 TO 100:FORJ=1 TO 7:
    R(I,J)=0:NEXT:NEXT
 40 DIMP$(20)
 50 W=0:F=0:DIM B(20):DIMC(20)
 60 FOR I=1 TO 20:C(I)=0:B(I)=0:NEXT
 70 L=0:V=0
 80 :
 90 REM INPUTING WINNING NUMBERS
100 :
110 FOR I =1 TO 6
120 PRINT"INPUT LOTTO NUMBER ";I;:INPUTLOT(I)
130 IF LOT(I)>40 OR LOT(I)<0 THEN120
140 NEXT
150 INPUT "BONUS NUMBER ";LOT(7)
160 PRINT"Please wait"
170 FOR P=1 TO 20
180 FOR G=1TO6
190 READ A$:A=VAL(A$):IF A=99 THEN GOTO310
200 FOR I =1TO7
210 IF A=LOT(I)THEN F=F+1
220 NEXT I
230 IF F=0 THEN B$="--" ELSE B$=A$:L=L+1
240 IF A=LOT(7) THEN B(P)=1:B$=A$
250 F=0
260 P$(P)=P$(P)+B$+" "
270 NEXT G
280 C(P)=L
290 L=0
300 NEXT
310 PROCp
320 END
330 :
340 REM YOUR NUMBERS ON YOUR TICKETS
350 :
360 DATA 07,11,15,24,33,36
370 DATA 02,07,12,16,17,34
380 DATA 02,14,17,26,31,40
390 DATA 01,05,09,18,21,25
400 DATA 01,09,16,23,30,37
410 DATA 01,10,16,18,31,34
420 DATA 07,13,19,25,31,37
430 DATA 02,10,22,26,31,39
440 DATA 04,14,16,25,32,39
450 DATA 01,16,19,22,27,38
460 DATA 01,08,14,21,28,35
470 DATA 04,09,18,22,33,40
480 DATA 03,05,07,08,13,15
490 DATA 01,12,19,23,31,37
500 DATA 01,11,16,17,32,38
```

```
510 DATA 10,13,17,25,29,36
520 DATA 02,07,12,21,23,39
530 DATA 01,12,16,24,30,34
540 DATA 09,11,17,22,28,34
550 DATA 09,14,19,23,27,34
560 DATA 99
570 :
580 REM PRINTING
590 :
600 DEFPROCp
610 CLS
620 VDU2
630 PRINT "    ";:VDU1,27:VDU1,14:VDU1,27:VDU1,45:VDU1,1:
    PRINT "LOTTO";:VDU1,20:VDU1,27:VDU1,45:VDU1,0
640 PRINT:PRINT
650 FOR P=1 TO 20
660 PROCcheck
670 PRINT P$(P);"    ";W$
680 NEXTP
690 VDU3
700 ENDPROC
710 :
720 DEFPROCcheck
730 C(P)=C(P)-B(P)
740 IF C(P)=6 THEN W$="DIV ONE":ENDPROC
750 IF C(P)=5 AND B(P)=1 THEN W$="DIV TWO":ENDPROC
760 IF C(P)=5 THEN W$="DIV THREE":ENDPROC
770 IF C(P)=4 THEN W$="DIV FOUR":ENDPROC
780 IF C(P)=3 AND B(P)=1 THEN W$="DIV FIVE":ENDPROC
790 W$="NIL":ENDPROC
800 :
```

MEMBERSHIP

Membership of the National User Group is on payment of an annual subscription from April to March, which is $20.00 for the 1988/9 year. A local branch levy may be payable which entitles attendance at meetings as detailed on the back page. Joining or renewing members get all the back issues of *Beeblet* for the current year - those joining after 1 October may have half the annual subscription waived and only receive *Beeblet* from 1 October.

* * *

USER GROUP MEETINGS

AUCKLAND: -2nd and 3rd Wednesday of each month at Social Club, Auckland Hospital, Grafton Road at 7.30pm. Contact John Buchanan (Secy), phone 546-985; David Wilkin (Pres), phone 437-540.

North Shore: -last Wednesday of the month, 7.30pm, Salvation Army Hall, Glenfield Road, Glenfield. Contact: Chris, Phone 419-0543 (wk).

CHRISTCHURCH: -fortnightly workshops, Monday 6.30pm at Hagley High School. phone Michael 582-267.

DUNEDIN: -first Thursday of the month. Contact: Martin McDowall, Phone 42-031

HAWKES BAY: -2nd Sunday 2.30pm, Taradale Primary School. Contact Ron: 444-970, John: 445-729 (librarian), Major: 447-729, Mitch: 85-395.

INVERCARGILL: -Southland Education Centre, 70 Doon St. Contact Bob Evans, 73-050 or Lyndon McEntee (020) 87-365.

NELSON: -second Monday of the month, 7.30pm, Nelson Baptist Church, Bridge St. Contact: Peter, Richmond 8975; Ken, Nelson 85-150; Richard, Richmond 8489.

PALMERSTON NORTH: -Phone Brian Knowles 79-319.

ROTORUA: -first Tuesday of month, Science Lab at Rotorua Girls High School. Phone: Ian 85-583, Joan 81-536 Tony 89-316.

TAUPO: -every second Wednesday, 7.00pm. Contact: David 84-215 (h), 85-124 (wk).

TAURANGA: -every second Wednesday. ph. Chris & Jane 65-076.

TIMARU: -Phone Lloyd van der Krogt Timaru 61-412.

TOKOROA: -1st Friday of month, 7.30pm, Tokoroa High School. Contacts: Don Fraser, 68-813 or Graeme Robertson, 65-346 Tokoroa.

WAIKATO: -first Monday of the month, 7.30pm, Waikato Tech Institute. Ph. Alison or John, Morrinsville 6695.

WELLINGTON: -usually second Wednesday, 7.30pm, Royal Society Lecture Theatre, Turnbull St, Thorndon.
-Workshops: fourth Tuesday of month, other details: ph. Don 848-235 or Mike 785-437.

OTHER CENTRES: -let us know and we will publish details here.

BEEBLET

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